

direction coupled to a conductor deposited in the Manhattan wiring direction, *see* claim 17.

Applicants respectfully submit that the drawings do show both these features. For instance, Figure 10 illustrates a section 1010 of a metal layer 1000 that includes a Manhattan line 1012 (in this case a horizontal line) connected to a conductor in the preferred diagonal direction of the section 1010. In addition, Figure 14 illustrates interconnected horizontal and diagonal wiring. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the objection to the drawings.

II. Rejection of Claims 1 and 17 under 35 U.S.C. § 112, ¶1.

In the Office Action, the Examiner rejected claims 1 and 17 under 35 U.S.C. § 112, ¶1. The Examiner stated the following claimed features were not described in the specification to enable one of ordinary skill in the art:

- said second section further comprising at least one conductor deposited in a Manhattan direction coupled to a conductor deposited in said preferred diagonal wiring direction, *see* claim 1,
- the first section further comprising at least one conductor deposited in a diagonal direction coupled to a conductor deposited in the Manhattan wiring direction, *see* claim 17.

Applicants respectfully submit that the specification does show both these features. For instance, Figure 10 illustrates a section 1010 of a metal layer 1000 that includes a Manhattan line 1012 (in this case a horizontal line) connected to a conductor in the preferred diagonal direction of the section 1010. *See also* pages 20 and 21 of the specification. In fact, the summary of the present application defines a wire deposited in a Manhattan direction in a section that has a preferred diagonal direction as a “zag.” The summary provides an example where a section may

have a diagonal preferred direction (*e.g.*, plus 45 degrees) and wires deposited in a horizontal direction.

In addition, Figure 14 illustrates interconnected horizontal and diagonal wiring. In fact, the summary of the present application defines a wire deposited in a diagonal direction in a section that has a preferred Manhattan direction as a “zig.” The summary provides an example where a section may have a Manhattan preferred direction (*e.g.*, vertical) and wires deposited in a diagonal direction (*e.g.*, plus 45 degrees). In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the §112, ¶1 rejection.

III. Rejection of the Claims Under 35 U.S.C. § 103.

In the Office Action, the Examiner rejected claims 1-9, 11, and 13-17 under 35 U.S.C. § 103 as being unpatentable over USP 6,448,591 issued Juengling (Juengling). The Examiner also rejected claims 10 and 12 as being unpatentable over Juengling in view of USP 5,650,653 issued to Rostoker (Rostoker).

Applicants respectfully traverse the Examiner's § 103 rejections. Applicants respectfully submit that each of the pending claims recites an integrated circuit that has at least one metal layer that includes several sections, where each section includes at least one thousand conductors. Each claim defines a preferred direction within a section, to be a direction, relative to the boundaries of the integrated circuit, for at least fifty percent of conductors in the section. Each claim also defines the metal layer as having a first section that includes a first preferred direction for the conductors deposited in the first section, and a second section that includes a preferred diagonal wiring direction for the conductors deposited in the second section, such that the diagonal preferred direction is a direction different from the first preferred direction. In claim 17, the preferred direction of the first section is a Manhattan wiring direction.

As the Examiner noted, Juengling does not disclose an IC with at least two sections that

each have at least 1000 conductors and that each have a different preferred wiring direction. In fact, the disclosure and teachings of Juengling do not pertain in any manner to providing different preferred direction wiring in different sections of a metal layer of an IC.

Applicants respectfully submit that the 1000 conductor limitation is part of the definition of the term "section." This limitation complements the preferred-wiring direction limitation, which requires at least 50% of the wiring of a section to be in a particular direction. Accordingly, the 1000 conductor and preferred-wiring direction limitations specify an IC with a metal layer that has at least two sections, with each section having more than 1000 conductors and at least 50% of its conductors in a particular direction. Hence, the 1000 conductor limitation is not a feature of the claimed inventions that is to be deemed through hindsight reconstruction to be within the purview of an ordinary artisan. This limitation defines the claimed inventions, which are not disclosed, taught, or even suggested by Juengling.

In view of the foregoing, Applicants request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103.

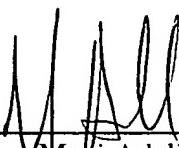
CONCLUSION

In view of the foregoing, it is submitted that the claims are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible date.

Respectfully submitted,

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